

February 2001
FACT SHEET
NAVAJO TRIBAL UTILITY AUTHORITY (NTUA) - Kayenta
NPDES Permit No. AZ0020281

I. Introduction

The Navajo Tribal Utility Authority NTUA was issued an NPDES Permit (AZ0020281) on May 02, 1997 for the Kayenta NTUA wastewater treatment lagoon facility. The permit became effective March 03, 1992 and expired at midnight May 02, 1997. NTUA reapplied to U.S. Region 9 for reissuance on June 30, 1997. The 1992 permit has been administratively continued pending reissuance by EPA.

Applicant address: Navajo Tribal Utility Authority
P.O. Box 170
Fort Defiance, AZ 86504

Facility contact: Harry Begaye
(520) 729-5721

II. Background

The NTUA-Kayenta wastewater treatment lagoon facility is located in Kayenta, within the north central portion of the Navajo Nation, Arizona. NTUA has operated the Kayenta WWTF since early 1970s. The facility serves a population of about 9,500, receiving only domestic sewage, with a design flow of 0.9 million gallons per day (MGD). The treatment plant consists of six facultative lagoon operated in series. **The only pretreatment of wastewater flows at this facility is a barscreen with a two-inch opening.** There is natural die-off of fecal coliform bacteria. There is an influent gate box that can direct the influent flow to either Cell 1 or to Cell 2. The lagoon system was recently equipped with ultra-sonic meters to measure the influent and effluent. Effluent is chlorinated and discharged from an 8-inch pipe from Cell #6 to Discharge Outfall No. 001, to Laguna Wash, a tributary to the San Juan River. Any sampling and monitoring under the proposed permit shall be performed at Outfall No. 001 prior to discharge.

EPA has determined that there are no endangered species of concern in the discharge area so no requirements specific to the protection of endangered species are in the proposed permit.

III. Navajo Nation Water Quality Standards

Pursuant to the Water Quality Act of 1987 and the "EPA Policy for the Administration

of Environmental Programs on Indian Reservations" (November 8, 1987), EPA will work directly with Indian Tribal governments on a one to one basis. This conforms with the Federal Indian Policy of January 24, 1983. The Navajo Nation has received Treatment as a State (TAS) for Section 106 of the Clean Water Act (CWA) but has not yet received TAS under Section 303. Section 106 grant money is used to develop water quality standards and use designations, which must be approved under Section 303 by EPA Region 9. On September 7, 1999, the Navajo Nation adopted water quality standards for the nation's waters. These water quality standards along with a TAS application under Section 303 were submitted to EPA in November 1999. EPA has recently public noticed its intent to approve the TAS. The nation's adopted water quality standards are currently under review by EPA. In the interim, until such time as there are approved water quality standards in place, the Navajo Nation water quality standards will be used on a best professional judgment basis for purposes of developing water quality based effluent limitations.

IV. Basis of Proposed Permit Requirements

The proposed discharge limitations are based on:

A. Secondary Treatment Regulations contained in 40 CFR Part 133, Sections 133.101 through 133.105, promulgated September 20, 1984, and most recently amended on January 27, 1989. EPA used these regulations and its best professional judgment (BPJ) to develop limits for this facility.

B. Navajo Nation Water Quality Standards, September 7, 1999.

V. Designated Uses of the Receiving Water

The designated uses of the receiving waters (Laguna Creek - nonperennial, the San Juan River Basin), as defined by the Navajo Nation's water quality standards, are secondary human contact, ephemeral warm water habitat, and livestock and wildlife watering (p. 22).

VI. Determination of Effluent Limitations, Monitoring, and Reporting Requirements

A. Flow Rates

Under the proposed permit, there is no flow limit but the monthly and daily maximum flows must be monitored and reported. The monitoring frequency is once/month. This is consistent with the previous permit.

B. Five-Day Biochemical Oxygen Demand (BOD₅)

Under the proposed permit, the discharge shall not exceed a weekly average of 45 mg/l and a monthly average of 30 mg/l BOD₅, and shall achieve no less than a monthly average rate of 85% removal. These limits are required under 40 CFR Section 133.102(a). The limits are designated as 30-day and 7-day averages since the facility operates similarly to a POTW [40 CFR 122.45(d)]. These limits are more slightly more stringent than the previous permitted weekly and monthly levels of 49 mg/l and 32 mg/l, respectively.

Under 40 CFR Section 122.45(f), mass limits are required for BOD₅. Based upon the 0.90 MGD flow, the mass limits for BOD₅ are based on the following calculations:

Monthly average

$$\frac{0.90 \text{ MG}}{\text{day}} \times \frac{30 \text{ mg}}{\text{l}} \times \frac{8.345 \text{ lb/MG}}{1 \text{ mg/l}} \times \frac{0.45 \text{ kg}}{\text{lb}} = 101 \text{ kg/day}$$

Weekly average

$$\frac{0.90 \text{ MG}}{\text{day}} \times \frac{45 \text{ mg}}{\text{l}} \times \frac{8.345 \text{ lb/MG}}{1 \text{ mg/l}} \times \frac{0.45 \text{ kg}}{\text{lb}} = 152 \text{ kg/day}$$

These mass limits are more stringent than those from the previous permit, due to the use of current average flow rate of 0.90 MGD. The monitoring frequency is once/month.

C. Total Suspended Solids (TSS)

As in the previous permit, the discharge shall not exceed a weekly average of 135 mg/l and monthly average of 90 mg/l TSS, and shall achieve no less than a monthly average rate of 65% removal. These limitations are consistent with 40 CFR 133.101(f), 133.103(c) and 133.102(b). Mass limit requirements in accordance with 40 CFR 122.45(f) have also been set in the proposed permit. Mass loadings are based upon the same calculation shown above for BOD₅ and shall not exceed a 7-day average of 456 kg/day and a 30-day average of 304 kg/day for TSS. These mass limits are more stringent than those from the previous permit due to lower flow rate. The monitoring frequency is once/month.

D. Fecal Coliform

In the proposed permit, the monthly logarithmic mean of fecal bacteria shall not exceed 200/100 ml, as a geometric average of samples collected during the calendar month, and 400/100 ml as a single sample maximum. These limits are more stringent than those in the previous permit and are based on Navajo Nation water quality standards for secondary human contact (p. 24). The monitoring frequency is once/month.

E. Total Residual Chlorine (TRC)

The facility does not disinfect but limits are proposed in the event chlorination is ever used. If chlorination is used as part of the treatment process, the proposed permit requires a monthly TRC limit of 11 ug/l, due to concern over endangered species that exist in the San Juan River. This requirement is consistent with the Navajo Nation Water Quality Standards (p. 28). The proposed permit will require the use of dechlorination if chlorination is used. The monitoring frequency is once/day. Sampling is to begin at the initiation of dechlorination.

F. Total Dissolved Solids (TDS)

The proposed permit requires monitoring and reporting of both the influent and effluent TDS, as in the previous permit. The monitored frequency is once/month. The regulations at 40 CFR 122.44(i) allow requirements for monitoring as determined to be necessary.

G. Ammonia (as un-ionized NH₃)

The proposed permit establishes monitoring requirement for ammonia. The monitoring frequency is once/quarter. If analytical results for the first four quarters reveal ammonia levels are below EPA's National Water Quality Criteria for ammonia, the monitoring frequency will decrease to once/year. The regulations at 40 CFR 122.44(i) allow requirements for monitoring as determined to be necessary.

H. pH

The proposed permit requires that effluent pH not fall below 6.5 or above 9.0 standard pH units, based on the Navajo Nation numeric water quality standards for aquatic, wildlife and livestock (Table 206B.1, p. 28.) The standards are associated with the concern for endangered fish species that are present in the San Juan River. The monitoring frequency is once/day.

I. Priority Pollutant Scan

Consistent with the previous permit, the proposed permit established monitoring requirement for priority pollutants. No limit set at this time. Should the results of the first test reveal levels below EPA's National Water Quality Criteria for priority pollutants and ammonia, monitoring will no longer be required.

J. Reporting

The proposed permit requires discharge data obtained to be summarized and reported monthly. If there is no discharge for the month, indicate "Zero Discharge." These reports are due by the 28th of the following month. Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator and the Navajo Nation.

K. General Standards

The proposed permit sets general standards that are narrative water quality standards contained in the Navajo Nation Water Quality Standards, Section 203. These general standards are set forth in Section B. General Discharge Specifications of the permit.

VII. Permit Reopener

At this time, there is no reasonable potential to establish any other water quality-based limits. Should any monitoring indicate that the discharge causes, has the reasonable potential to cause, or contributes to excursions above water quality criteria, the permit may be reopened for the imposition of water quality-based limits and/or whole effluent toxicity limits. The proposed permit may be modified, in accordance with the requirements set forth at 40 CFR 122.44 and 124.14, to include appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any EPA-approved new Tribal water quality standards.

VIII. Biosolids Requirements

The permittee shall submit a report 60 days prior to disposal of biosolids. The report shall discuss the quantity of biosolids produced, the treatment applied to biosolids including process parameters, disposal methods, and, if land applied, analyses for Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Zinc, and Selenium, and for organic-N, ammonium-N, and nitrate-N, all expressed in mg/kg biosolids on a 100% dry weight basis. The permittee shall comply with all standards for biosolids use and disposal of Section 405(d) of the CWA, and 40 CFR Parts 257, 258 and 503.

IX. Written Comments

Persons who wish to comment upon, object to the proposed action, or request a public hearing pursuant to 40 CFR Section 124.11 should submit their comments and requests in writing within thirty (30) days from the date of the Public Notice, either in person or by mail to:

U.S. Environmental Protection Agency, Region IX
CWA Standards and Permits Office (WTR-5)
Attn: Linh Tran
75 Hawthorne Street
San Francisco, CA 94105
Telephone: (415) 744-1901

X. Information and Copying

The Administrative Record, which contains the draft NPDES permit, the fact sheet, comments received, and other relevant documents, is available for review and may be obtained by calling or writing to the above address.

All comments or objections received within thirty (30) days from the date of the Public Notice, will be retained and considered in the formulation of the final determination regarding the permit issuance.

XI. Public Hearing

When public interest warrants, the Regional Administrator shall hold a public hearing and such notice of hearing shall be issued by public notice at least thirty (30) days prior to the hearing date. A request for a public hearing must be in writing and must also state the nature of the issue proposed to be raised in the hearing.

၆ ၆ ၆ ၆